What is claimed is:

1. An apparatus for dispersively processing an IP (Internet Protocol) packet forwarding for supporting a quality of service (QoS), said apparatus comprising:

an input processing unit for classifying reception IP packets according to the QoS and storing them at an input-side class queue;

an information searching unit for searching a forwarding information base by using an exact matching table and an LPM (Longest Prefix Matching) search table according to an IP header value of the IP packet stored at the input processing unit, and gaining forwarding information;

a packet transferring unit for transferring the IP packet according to the forwarding information gained through the information searching unit; and

an output processing unit for classifying the IP packets transferred from the packet transferring unit according to the QoS, storing them at an output-side class queue, and outputting the stored IP packet according to the QoS.

2. The apparatus as recited in claim 1, wherein said information searching unit is characterized in that according to the searching result for the exact matching table, the forwarding information is carried out of the forwarding table by using an output address of the exact matching table, after that, the IP packet is encapsulated and transferred to a next-

hop; and according to the searching result for the LPM matching table, the forwarding information is carried out of the forwarding table by using the output address of the LPM matching table, after that, the IP packet is encapsulated and transferred to the next-hop, and simultaneously, the LPM matching result is registered for the exact matching searching table.

3. The apparatus as recited in claim 2, wherein said queue stores an IP packet payload, a DH (Destination Header) as a destination IP address value of the IP packet, and an EH (Encapsulated Header) as encapsulation header information stuck when the IP is encapsulated, as the main fields of the IP packet.

4. A method for dispersively processing an IP (Internet Protocol) packet forwarding, in an IP packet forwarding dispersion processing apparatus for supporting a quality of service (QoS), said method comprising the steps of:

a) classifying reception IP packets according to the QoS and storing them at an input-side class queue;

b) searching a forwarding information base by using an exact matching table and an LPM (Longest Prefix Matching) search table according to an IP header value of the IP packet stored at the input-side class queue, and gaining forwarding information;

c) transferring the IP packet according to the gained

forwarding information;

d) classifying the transferred IP packets according to the QoS, and storing them at an output-side class queue; and

e) outputting the IP packet stored at the output-side class queue according to the QoS.

5. The method as recited in claim 4, wherein said step b) includes the steps of:

b1) carrying the forwarding information out of the forwarding table by using an output address of the exact matching table, according to the searching result for the exact matching table, and after that, encapsulating the IP packet and transferring it to a next-hop; and

b2) carrying the forwarding information out of the forwarding table by using the output address of the LPM matching table, according to the searching result for the LPM matching table, and after that, encapsulating the IP packet and transferring it to the next-hop, and simultaneously, registering the LPM matching result for the exact matching searching table.

6. The method as recited in claim 5, wherein said queue stores an IP packet payload, a DH (Destination Header) as a destination IP address value of the IP packet, and an EH (Encapsulated Header) as encapsulation header information stuck when the IP is encapsulated, as the main fields of the IP packet.

7. A record medium capable of being read through a computer having a writing of a program, in an IP packet forwarding dispersion-processing apparatus having a processor, said record medium characterized in that said program is provided to realize:

a first function of classifying reception IP packets according to a QoS and storing them at an input-side class queue;

a second function of searching a forwarding information base by using an exact matching table and an LPM (Longest Prefix Matching) search table according to an IP header value of the IP packet stored at the input-side class queue, and gaining forwarding information·

a third function of transferring the IP packet according to the gained forwarding information;

a fourth function of classifying the transferred IP packets according to the QoS, and storing them at an output-side class queue; and

a fifth function of outputting the IP packet stored at the output-side class queue according to the QoS.